

VERTICAL SERIES

Technical Drawing of Vertical Series Gearbox

Front View Dimensions:

- Overall width: 153.70 ± 0.5 mm
- Shaft height: 95 ± 1.5 mm
- Shaft diameter: $\Phi 188$ mm
- Shaft shoulder height: 80 mm
- Shaft shoulder width: 4 mm
- Shaft shoulder angle: 50°
- Shaft shoulder lip seal detail: $M4 \times 12 \text{mm}$
- Shaft shoulder O-ring detail: $\Phi 66$ mm
- Shaft shoulder thickness: 12 mm
- Shaft shoulder shoulder height: 6 mm
- Shaft shoulder shoulder angle: 40°
- Shaft shoulder shoulder lip seal detail: $\Phi 12 H10 (+0.009)$
- Shaft shoulder shoulder O-ring detail: $4 H9 (-0.039)$
- Shaft shoulder shoulder shoulder height: 27 mm
- Shaft shoulder shoulder shoulder shoulder height: 32.75 mm
- Shaft shoulder shoulder shoulder shoulder shoulder height: 2.75 mm
- Shaft shoulder shoulder shoulder shoulder shoulder shoulder height: 3 mm
- Shaft shoulder shoulder shoulder shoulder shoulder shoulder shoulder height: $\Phi 55 +0.015 / -0.020$ mm

Side View Dimensions:

- Overall width: 259.70 mm
- Shaft height: 128 mm
- Shaft diameter: $\Phi 50$ mm
- Shaft shoulder height: $\Phi 155 \pm 0.2$ mm
- Shaft shoulder angle: 45°
- Shaft shoulder shoulder height: $\Phi 178 \pm 0.25$ mm

Performance Parameters:

MAIN PERFORMANCE PARAMETERS	
GEAR RATIO	6:2:1
HOLDING TORQUE	4kNm
EFFICIENCY	30%
TIPTING MOMENT	852Nm
SELF-LOCKING GEAR	YES
RADIAL STATIC LOAD	32kN
BACKLASH CLEARANCE	<0.20°
MAXIMUM TORQUE	1.200Nm
RADIAL DYNAMIC LOAD	30kN
NOMINAL TORQUE	600Nm
AXIAL DYNAMIC LOAD	12kN

Load Capacity Diagrams:

- LIMITING LOAD DIAGRAM:** A graph showing axial load capacity versus radial load capacity.
- TILTING MOMENT:** A graph showing the relationship between axial load and tilting moment.

Input Shaft Detail:

Scale 1:1

Shaft diameter: $\Phi 12 H10 (+0.009)$

O-ring detail: $4 H9 (-0.039)$

Shaft: $\Phi 12 \text{mm KEYED SHAFT}$

Reference: TVR160-20-RM

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